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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,958	12/03/2003	James D. Castillo	INVAT-100A	4383

7590 05/03/2006

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EXAMINER
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DRYDEN, MATTHEW DUTTON

ART UNIT	PAPER NUMBER
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3736

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/726,958

Applicant(s)

CASTILLO ET AL.

Examiner

Matthew D. Dryden

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-6, 9-13 and 16 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2/23/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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## **DETAILED ACTION**

### ***Claim Objections***

Claims 14 and 16 are objected to because of the following informalities: the claims recite limitations of a fifth and sixth sensor but there are only three sensors in claim 6, which they refer back to so it is suggested that the claims be changed to correctly claim the number of sensors associated between claims 6 and 14, and claims 6 and 15. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Curchod (5826578).

Regarding claim 1, Curchod discloses a motion measurement apparatus comprising:

a reference component capable of being secured to a body part of a patient and providing a reference point (this could be a number of things, but the main reference component can be the middle portion of the frame located around the waist in Figure 4),

an articulated measurement arm (the articulated arm is just an arm that has sections movable with each other which can be seen around elements 25

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and 27 in Figure 4) movably coupled to the reference component, having a plurality of sections (elements 25 and 27 in Figure 4), each section has a measurement point (elements 22 in Figure 4),

the measurement points do contain sensors with the measurement points and are capable of providing a plurality of data sufficient to allow determination of a position of each measurement point relative to the reference point.

Regarding claim 3, see Column 4, lines 11-25, wherein the potentiometer can be viewed as an angular potentiometer because it is capable of detecting varying angles of a joint.

Regarding claim 4, the measurement points of Curchod are capable of being in contact with a body part simultaneously.

Regarding claim 5, see Column 4, lines 39-59.

Regarding claim 16, Curchod discloses a method comprising:

establishing a reference point associated with a physical landmark of the body part (see Column 6, lines 16-35),

bringing a plurality of measurement points into contact with the body part, wherein each of the measurement points is in contact with the body part simultaneously, wherein each of the measurement points is mechanically coupled to the reference point (see column 3, lines 57-65),

using a computer to collect data from a plurality of sensors (see Column 4, lines 39-59),

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determining the position of each measurement point in three-dimensional space with respect to the reference point to generate the three-dimensional model of the body part (see Columns 4-6, lines 39-35).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Curchod in view of Mittelman et al (4583554). Curchod discloses the claimed invention except for the arm being coupled to the reference component with a hinge. Mittelman et al teach it is known to provide a device with a hinge so that an arm can pivot around an axis with respect to a reference component (see

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Column 2, lines 43-52). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Curchod with a hinge connecting an arm and a reference component, as taught by Mittelman et al, so that an arm can pivot around an axis with respect to the reference component.

Claims 6, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamb et al (4911177) in view of Gollhofer (6302856). Lamb et al discloses the claimed invention except for the device comprising a first and second measurement arm movably coupled to the femoral component and the tibial component, the first and second measurement arms having a measuring point that is capable of being brought into contact with the leg, and the first and second measurement arms having sensors capable of providing a plurality of data sufficient to determine positions of measurement points. Lamb et al does disclose a femoral component capable of being secured to a leg of a patient and providing a reference point (wherein a reference point can be any point along the component, see around elements 20 and 22 in Figure 1), a tibial component (around elements 59 in Figure 1) movably coupled to the femoral component, the tibial component being secured to the leg, and the tibial component having a first sensor (all of the transducers of the current patent can be viewed as being connected to the tibial component see elements 72, 104, 110, and 116 in Figures 1 and 4) capable of providing data sufficient to determine a position and orientation of the tibial component with respect to the femoral component.

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Gollhofer teaches it is known to provide a measurement device with two arms (one for the tibia and one for the femur) that are slidably connected to a reference frame and each arm having a sensor and measurement point to determine the drawer displacement in ones leg (see Columns 34, lines 19-57). Both of the sensors are attached to sensor rods (elements 36 and 34 in Figure 1) that are in constant contact with either the tibia or the femur to serve as reference points for the distal section of the femur and the proximal section of the tibia, or in other word as measuring points. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Lamb et al with a first and second measurement arm movably coupled, the first and second measurement arms having a measuring point that is capable of being brought into contact with the leg, and the first and second measurement arms having sensors capable of providing a plurality of data sufficient to determine positions of measurement points, as taught by Gollhofer, to determine the drawer displacement in ones leg.

Regarding claim 9, the device of Lamb et al comprises a plurality of sensors, the plurality of sensors/transducers associated with the component can be found as elements 72, 104, 110, and 116 in Figures 1 and 4.

Regarding claim 10, see Column 6, lines 24-26, and Column 5, lines 48-55.

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamb et al in view of Gollhofer as applied to claim 6 above, and further in view of Mittelman et al. Mittelman et al teach it is known to provide a device with

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a hinge so that an arm can pivot around an axis with respect to another component (see Column 2, lines 43-52). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Curchod with a hinge connecting an arm and a reference component, as taught by Mittelman et al, so that an arm can pivot around an axis with respect to the reference component.

***Allowable Subject Matter***

Claims 7 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 5,935,086 Beacon et al disclose an orthopedic measurement display system

U.S. Pat. No. 6,450,978 Brosseau et al disclose an interactive computer-assisted surgical system and method thereof

U.S. Pat. No. 6,890,312 Priester et al disclose a joint angle indication system.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Dryden whose telephone number



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is (571) 272-6266. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (571) 272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MDD



MAX F. HINDENBURG

SENIOR PATENT EXAMINER

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